

What is Claimed:

- 1 1. A valve assembly comprising:
 - 2 a quarter turn ball valve including a valve housing having an inlet and an
3 outlet port;
 - 4 an insert including a flow channel coupled to one of the ports in the housing
5 and a lip formed on its free end; and
 - 6 a flange rotatably carried on the insert having a circular hole, the diameter
7 of which being greater than that of the insert body and less than that of the valve housing,
8 the flange further having openings for receiving fasteners that secure the assembly in a
9 fluid system.
- 1 2. The valve assembly of claim 1, wherein the quarter turn ball valve
2 includes a valve stem coupled to a handle and stop that limit the rotation of the valve
3 stem.
- 1 3. The valve assembly of claim 2, wherein the stops include a skirt
2 formed on the handle and shoulders formed on the valve housing that cooperate with the
3 skirt to limit rotation of the valve stem.
- 1 4. The valve assembly of claim 1, wherein the insert is formed of brass.
- 1 5. The valve assembly of claim 1, wherein the flange is a stamped
2 chrome plated steel flange.
- 1 6. The valve assembly of claim 1, further comprising a check valve
2 located in the insert between the flange and one of the ports for preventing fluid flow from
3 the outlet port to the inlet port when an associated fluid system is unpressurized.
- 1 7. The valve assembly of claim 6 wherein the check valve is located
2 adjacent the inlet port.

1 8. The valve assembly of claim 6 wherein the check valve comprises:
2 a seat;
3 a plunger cooperating with the seat to prevent or permit flow; and
4 a spring having a relaxed position wherein the spring urges the plunger
5 against the seat to prevent flow and a compressed position wherein the plunger is spaced
6 from the seat and permits flow.

1 9. A valve assembly comprising:
2 a housing assembly arranged to contain a ball valve and a check valve;
3 a ball valve carried in the housing assembly, the ball valve having an inlet
4 port and an outlet port and a valve member adapted to control flow therethrough; and
5 a check valve carried in the housing assembly for preventing fluid flow from
6 the outlet port to the inlet port when an associated fluid system is unpressurized.

1 10. The valve assembly of claim 9 wherein the housing assembly includes
2 a valve housing and an insert coupled thereto, the ball valve being carried in the valve
3 housing, the insert having a fluid flow channel coupled to one of the ports in the valve
4 housing, and wherein the check valve is located within the insert.

1 11. The valve assembly of claim 9 wherein the check valve is located
2 adjacent the inlet port.

1 12. The valve assembly of claim 9 wherein the check valve comprises:
2 a seat;
3 a plunger; and

4 a spring having a relaxed position and a compressed position;

5 wherein the plunger contacts the seat when the spring is in the relaxed
6 position, thereby preventing fluid flow through the valve assembly, and

7 wherein the plunger is separated from the seat when the spring is in the
8 compressed position, thereby permitting fluid flow through the valve assembly.

1 13. The valve assembly of claim 9, wherein the flange is a stamped zinc
2 plated steel flange.